The 2014 season in the “Ritual Landscape of Murayghat” project

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LANDSCAPE OF MURAYGHĀT PROJECT: 2014 SEASON

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Research History of Murayghāt

The site of Murayghāt is situated in the limestone hills 3 km south-west of Mādabā, close to Ma'īn and the Wādī Zarqā' Ma'īn **(Fig. 1)**. This large dolmen site has been known for many years and was mentioned by early travellers and other passers-by; the first western description (there might well be mentions in Arabic sources) came from Charles Irby and James Mangles who toured the region in 1817 and 1818 and already created the mental connection between the stone structures and "sepulchral monuments" (Irby and Mangles 1985: 465-66), often repeated in the literature. Claude Reignier Conder visited the site in 1881 and recorded the name of "El Mareighât ... 'the things smeared,' with oil, or blood, or other thick liquid" (Conder 1889: 184). Other translations of the name include "site to picnic", "the site to enjoy the view" and meanings similar to the connection with thick liquid as reported by Conder. He described the site and its surroundings in some detail, estimating that 150 dolmens would have existed on the central knoll and the surrounding hills[1].

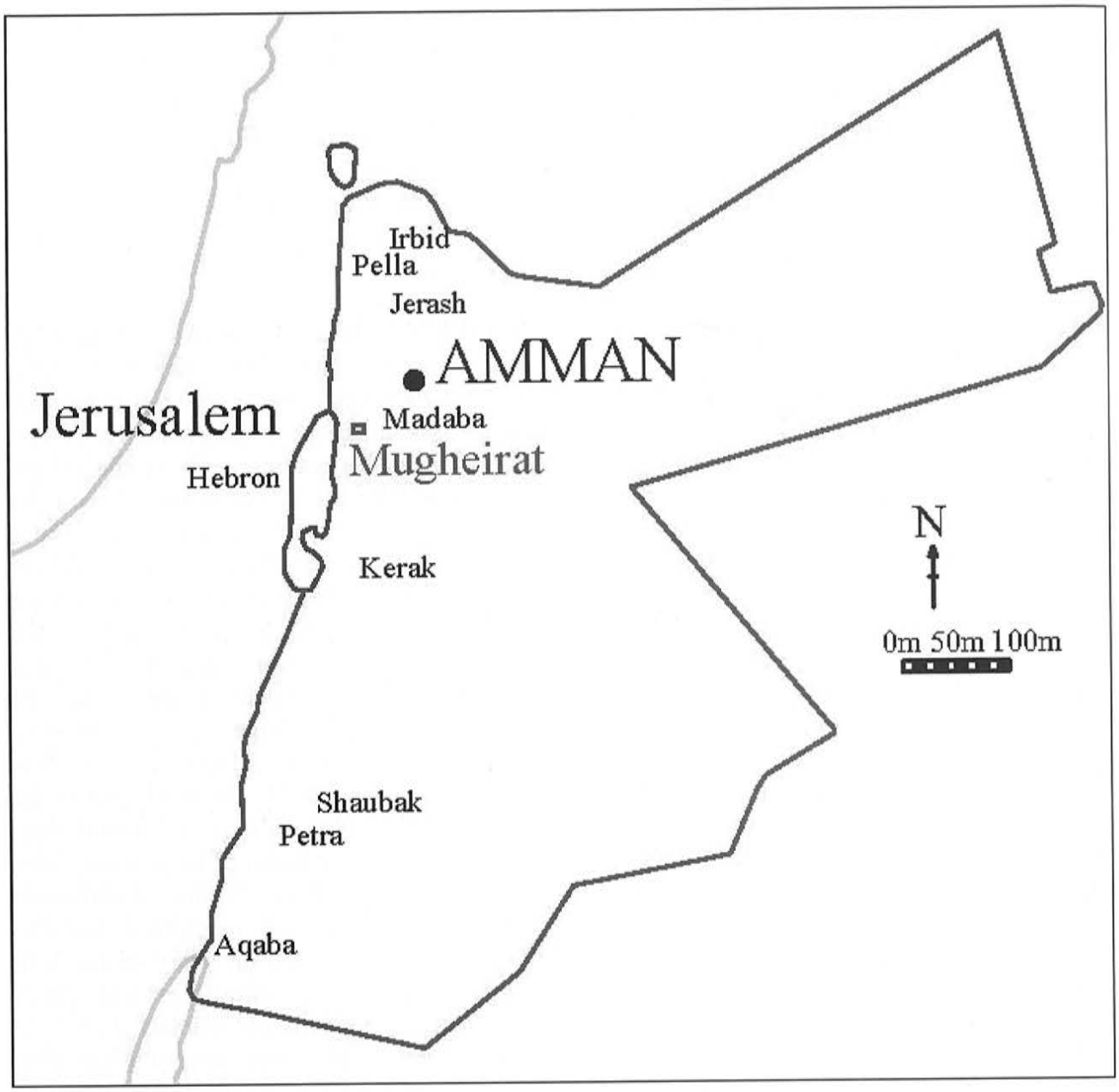
The Tulaylāt al Ghassūl team from the Pontific Institute reported Chalcolithic pottery in the 1930s (Mallon, Koeppel and Neuville 1934: 155, pl. 63: 4-9), so did Harrison in the 1990s, but stipulated that Early Bronze Age ceramics were also noticed (Harrison 1997: 29). Between 1999 and 2001 Savage and his team visited the site, surveyed random squares and documented several structures on the central knoll (Savage 2010; Savage and Rollefson 2001). They interpreted the results as "several structures on the hill made up of outlines of megalithic rocks (probably columns or column bases), with cobblestone floors" and "a series of concentric circles of standing stones" (Savage 2010: 36-37).

Several modern disturbances have affected the area around the site. Three quarries have been located in the vicinity of the site with the northern and southern quarries posing the greatest danger for the dolmen fields (Savage 2010; Scheltema 2008). This danger has lessened slightly, as the Department of Antiquities and the Jordanian Government have bought the dolmen fields west of the central knoll. A large number of dolmens have, however, already disappeared. Another disturbance was caused by the building of a road on the north-eastern side of the central area, which dislodged a number of large stones from their original locations. Further disturbances have been caused by agricultural activity. Pastoralists, who use the site every spring, have cleared smaller stones away from tent spaces and created pens for their animals. For these reasons, the Ritual Landscape of Murayghāt Project is primarily a salvage project that will document as much of these unique monuments as possible before they disappear; it is also a landscape project and as such, will include an examination of the wider environment around the site and how features within the landscape relate to each other.

Megalithic Constructions in Jordan

In the southern Levant dolmens are recorded to the north and west as far as the Syrian and Lebanese borders to the area of Karak in the

1. 80 would have been on areas 3-5 of the landscape project, Conder 1889: 186.



1. Location of Murayghāt in central Jordan (H. Barnes).

south (Swauger 1966); they can occur singly, but they usually appear in groups (sometimes of more than 100). In Jordan there are at least 18 dolmen fields (Scheltema 2008; Polcaro 2013). Dolmens (Celtic for "stone-table") are described as buildings, graves or ritual structures but are unusually consistent in their construction; comprising two large upright stone slabs to create walls upon which are placed one or more stone slabs forming a roof. The floor construction can be either a stone slab or simply the bedrock (Zohar 1992).

Other megalithic constructions are often connected with dolmens. Single standing stones, for example, can appear in connection with dolmen fields, as is the case with the Ḥajar al-Manṣūb north-east of the dolmen in Murayghāt. A second standing stone exists to the north-west, although it is not quite as large as the Ḥajar al-Manṣūb. A similar connection between dolmen fields, standing stones and a circular structure (Conder's circle) suggests a possible ritual

landscape in the area south of Mount Nebo (Mortensen and Thuesen 1998; Thuesen 2009).

Dolmens, as the Celtic origin of the name implies, exist across large parts of Europe[2], such as the dolmens in Languedoc and Brittany in France, or in Tustrup, Denmark. Standing stones and stone circles are also a European phenomenon, for example, the stone circles of the Lake District and in Wiltshire in Great Britain. Interpretation of the significance of these structures is still disputed.

In Jordan these features appear to date to the very end of the Late Chalcolithic period or beginning of the Early Bronze Age I with re-use in the Middle Bronze Age II (Polcaro 2013; Stekelis 1961; Thuesen 2009; Yassine 1985). Some authors however, prefer an EBIV date for their re-use (Prag 1995). It is important to remember however, that it is not at all clear if dolmens, standing stones and other structures are all contemporary, or that all dolmen fields are themselves contemporary.

Goals and Aims of the Ritual Landscape of Murayghāt Project

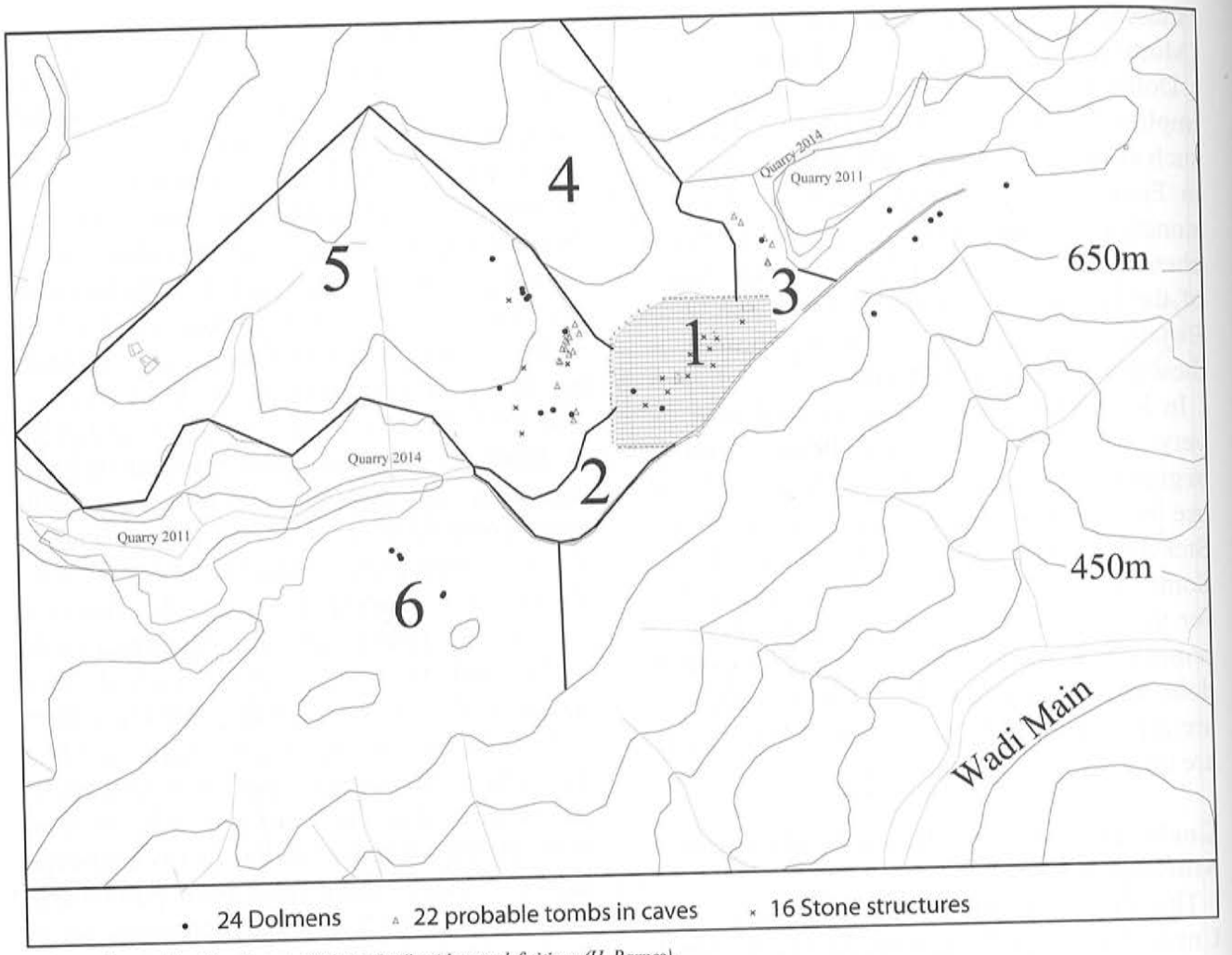
The Project is under the auspices of the University of Copenhagen (Institute for Regional and Cross-Cultural Studies) and directed by Susanne Kerner. The principal aim is to identify the role of ritual in the social and political make-up and development of the Late Prehistoric / Early Historic periods of the southern Levant. Rituals can be secular and part of everyday life, but they can also be part of religious ceremonies. Rituals structure life, which is one reason why they often appear in transitional phases. During periods when a strong political organisation is absent, such as in the Early Bronze Age, rituals would have played an important role in structuring life, but in later periods they would have facilitated communication and cohesion between different parts of society (individuals, families, clans). Dolmens and standing stones mark landscapes in a very visible way and could have worked as identity markers, particularly as there are different types of dolmens in the southern Levant, and at least two different sizes of dolmens in Murayghāt. The role of the central knoll as a meeting point between different groups has to be considered and tested through excavation. The Project will accordingly study Murayghāt as an endangered archaeological site, examine the date and construction of the dolmens and related structures, and construct an informed interpretation of these features and their relationship to the wider landscape. A landscape archaeological approach enables the study of Murayghāt in connection with other contemporary structures, and as such, is the most appropriate method by which to relate the dolmens, standing stones, possible domestic structures and cultic feature on the central knoll.

The combination of a central area with large numbers of wall lines, standing stones, dolmen fields and one of the largest single standing stones in Jordan, indicate that Murayghāt might have been a ritual site. Until now, dolmens have been interpreted as graves, but also as landscape markers, which might have been particularly meaningful in times of population unrest (as in the Late Chalcolithic period, the very beginning of the Early Bronze Age I or the beginning of the Middle Bronze Age II). In some cases, burials have been found in (or even underneath) dolmens (Polcaro 2014), but in many cases it has been difficult to prove that dolmen construction and associated burials were contemporary (Dubis and Dabrowski 2002; Yassine 1985).

Archaeological Work in 2014

The central knoll (area 1) at Murayghāt is bordered by the Wādī Murayghāt (which flows into the Wādī Zarqā' Mā'īn) to the north-west and the road towards the Wādī Zarqā' Mā'īn to the south-east **(Fig. 2)**. It is surrounded by low hills to the north, west and south-west, while south-east of the road a low field drops down to the steep sides of the Wadi Zarqa Ma'in (area

2. And in other parts of the world e.g. India and Korea.



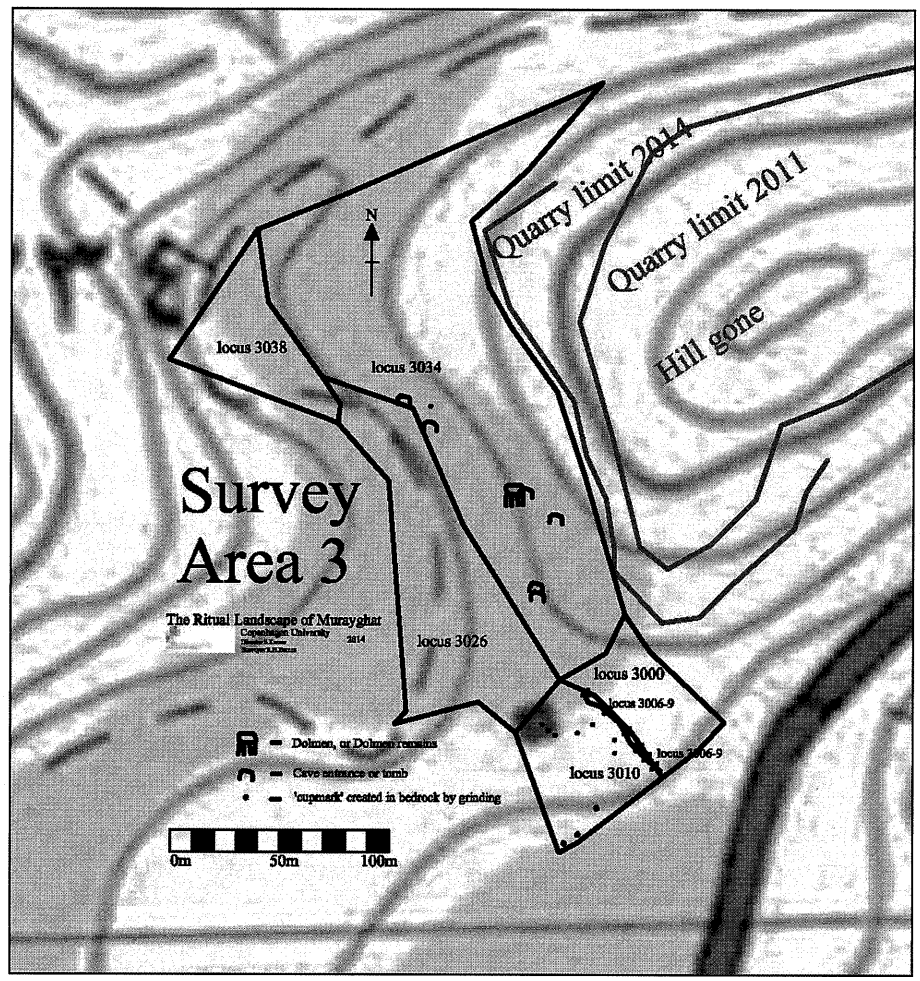
2. General map of the "Landscape of Murayghāt", with area definitions (H. Barnes).

7). The north-eastern hill (area 3) is severely damaged by a quarry, while the south-western hill (area 5) is also much affected by another quarry. Aerial photographs show the extent of quarrying from 2011 to 2014. Only the central hill (area 4) is untouched by the stone quarries. Along the road are some broken dolmens; according to information from the local people, these were destroyed in the last few decades.

Systematic Survey of Dolmen Fields

The systematic survey of the surrounding hinterland started with areas 3 and 5 **(Fig. 2)**, as these were the most threatened parts of the site. The work was carried out over four weeks in May and June 2014. The large areas (3 and 5) were divided into fields (loci) and the whole surface was then surveyed systematically. Single structures such as dolmens, standing stones, tombs and unclear structures were also given a locus number.

Area 3 is located north of the central knoll, and is constrained by the wadi in the south-west and west, the quarry to the north, the modern street to the east and the dirt road to the modern house in the south-east **(see Fig. 2)**. The ground slopes up from the central knoll and ends abruptly at the edge of the northern quarry. At the foot of the slope is a modern concrete house built in the early 2000s, with a modern well that uses older material in the well structure. The area contains one broken dolmen (L. 3033) and a collection of large boulders, stone slabs and standing stones, which seem to be in alignment (L. 3006-3009) running down the hill towards the modern road **(Fig. 3)**. Most elements in this alignment have



3. Plan of Area 3 with surveyed fields, cup-holes, dolmen and caves/tombs in the area (H. Barnes).

been moved from their original positions. Other large stone boulders are distributed over the hill without a clear pattern and might partly be the outcome of quarry work, meaning they might have tumbled down during quarrying. Around 20 carefully made cup-holes were recorded, with several of them grouped together in numbers of four or five **(Fig. 4)**. Six cave entrances were documented,[3] which were mostly carefully worked and might thus have been used as tombs **(Fig. 3)**. There was little surface material, such as ceramics or lithics, in the southern and western parts of the area towards the wadi, although a small number of finds were present on the eastern side and part of the upper slope. Pottery collected dated mostly to the Classical or Late Antique periods, perhaps giving an indication for the dating of the caves, which might have been tombs.

Area 5 is a much larger area west of the central knoll (area 1). Its northern limit is marked by a small wadi and its southern limit is formed by the southern stone quarry. The western limit of area 5 was artificially set. The area was divided into several fields **(Fig. 5)** [4], which were systematically surveyed; any structures recorded were assigned separate locus numbers.

Nearly all features found in area 5 are situated on the eastern side of the hill so that the central site (area 1) is visible from most features **(Fig. 5)**. Exceptions are a stone circle with connected wall / platform (L. 5008) and two small farmsteads. Nearly 20 caves, of which at least some might have been used as tombs,

3. These were also mentioned by Conder (Conder 1889: 185).
4. Surveyed fields: 5001, 5006, 5101, 5103, 5105, 5108, 5112, 5114, 5121, 5200, 5201, 5204, 5211, 5300, 5301, 5305, 5308.

4. Example of cup-holes in area 3 (N. Tylor).

were documented; they spread along the lower slopes of the hill. They are formed by either a square or an arched entrance into the rock **(Fig. 6)** and a superficial analysis of the pottery found in the vicinity of these possible tombs indicates a Classical or Late Antique date.

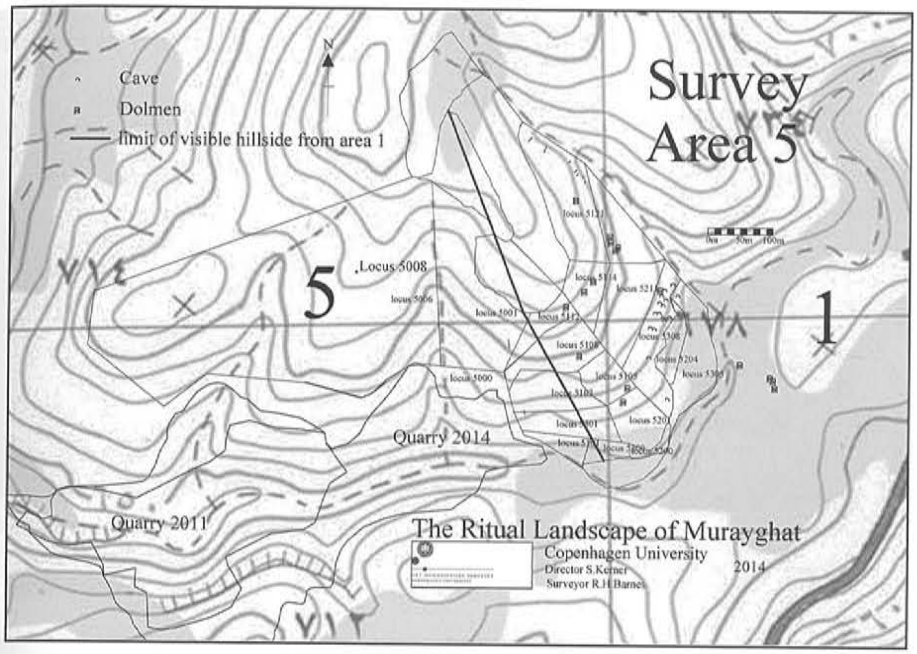
Clearly oriented towards the central knoll are eight dolmens in different stages of decay (some still complete), consisting of either one or two monolithic stones forming each of the side walls. Four to six other stone structures might have been dolmens but are now too destroyed to be certain **(Fig. 5)**. Other stone structures, including standing stones, circles and general stone accumulations were documented across all the slopes. Terracing walls and cisterns were also mapped.

Area 6, which is south of the southern quarry, was not part of the 2014 work-plan, but the frightening speed of the quarry's progress led to a photographic documentation of another five dolmens in that area.

Intensive Survey of the Central Knoll

Recording the archaeology of the central knoll (area 1) began with a total station survey **(Fig. 7)**. A 10 m x 10 m grid **(Fig. 8)** was laid over (area 1) in order to undertake intensive survey. Several structures were recognisable; although it was not always clear which of the walls or structures had been created by modern activities at the site (see above). The documentation of the standing stones and other architectural remains on the central knoll shows first of all a large wall around the southern and western part of the centre. At the western extremes, part of the wall had clearly collapsed (or been moved, possibly by a bulldozer according to a local interlocutor) down slope towards the Wādī Murayghāt **(Fig. 9)**. This curved, surrounding wall is, in places, a double wall, or at least has an inner and an outer face **(Fig. 7)**.

At the highest point on the bedrock a small stone circle was recorded (squares N/O 52, **Fig. 7**), another was assumed (Savage 2010), but was not clearly identifiable. Other structures appeared mostly, but not exclusively, to the north-west and south-west of the highest point on the knoll; these consisted of circular or more often horse-shoe shaped structures **(Figs. 7 and 10)** and vary between 7 m and 22 m in length / diameter. Several rectangular structures (usually built from slightly smaller stones) have also been documented **(Fig. 11)**. Other structures

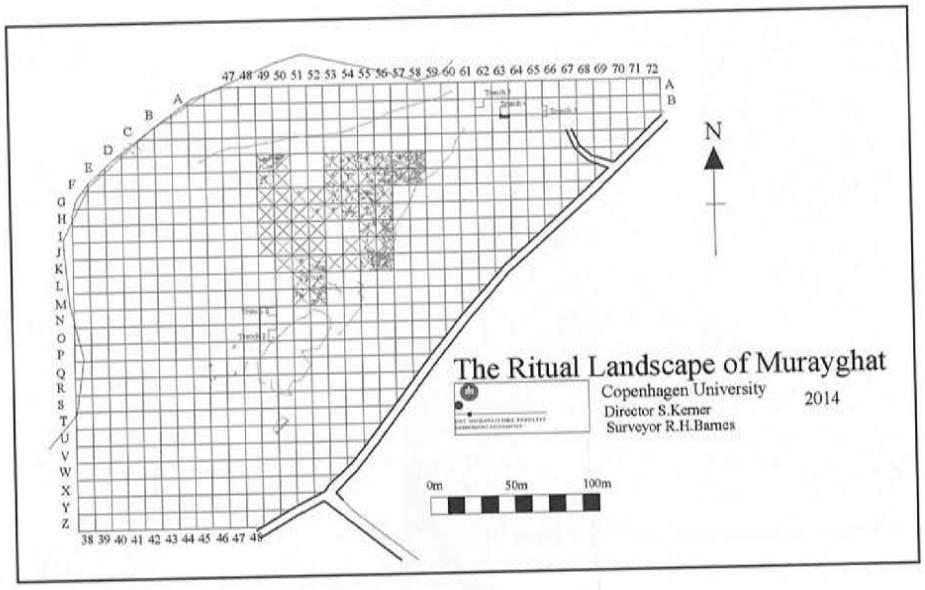


5. Plan of area 5 with surveyed fields, dolmen and caves/tombs. Dolmen in area 1 also shown (H. Barnes).

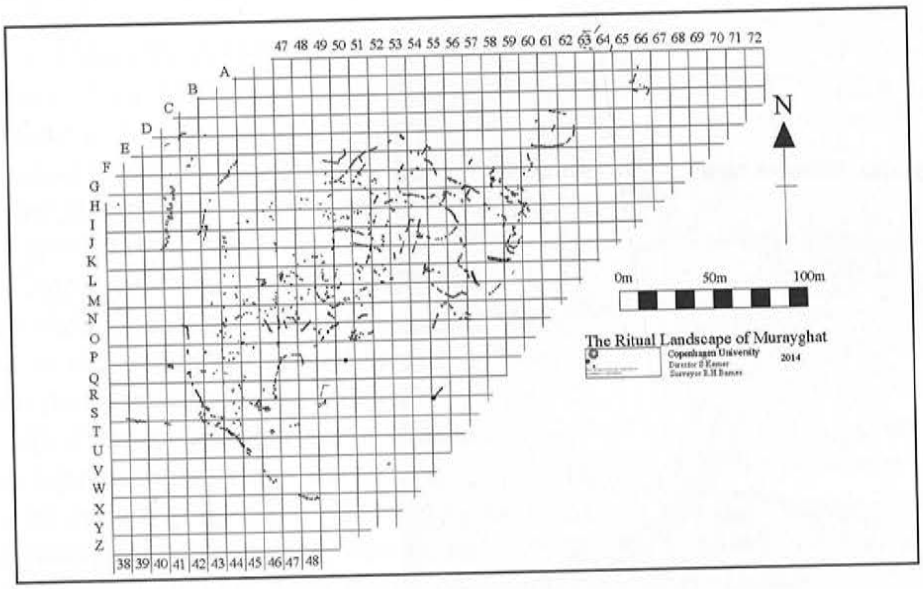
6. Group of caves in area 5, close to small wadi towards area 4. (Asma Bibi Younas).

include rows of standing stones **(Fig. 7)**. On the eastern slope of the central knoll two short double walls **(Fig. 7)** run up the hill forming an entrance-like structure. Numerous cup-holes have been documented on the central knoll and there is a concentration of them along the wadi edge, where in some cases groups of four and six have been found, while all over the knoll single cup-holes can be found.

Several modern stone lines have also been documented; they include animal pens, tent structures and long lines directing the water flow towards the modern cistern at the edge of the wadi. The most obvious modern disturbance was created during the last decade when the entire northern part of the site (north of the

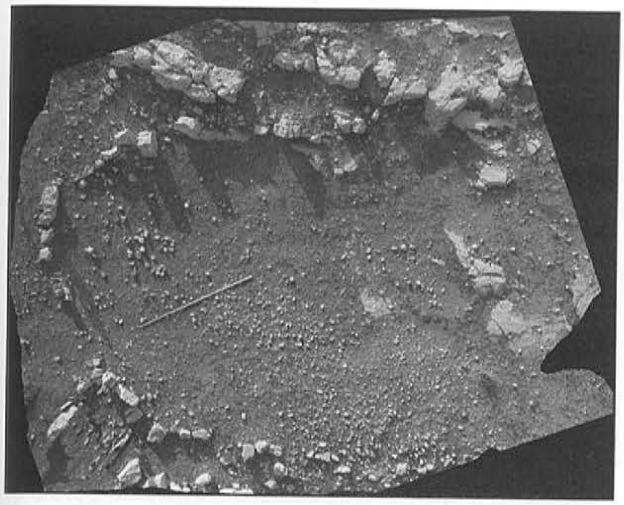


7. Plan of area 1 with grid and structures visible on the surface (H. Barnes).

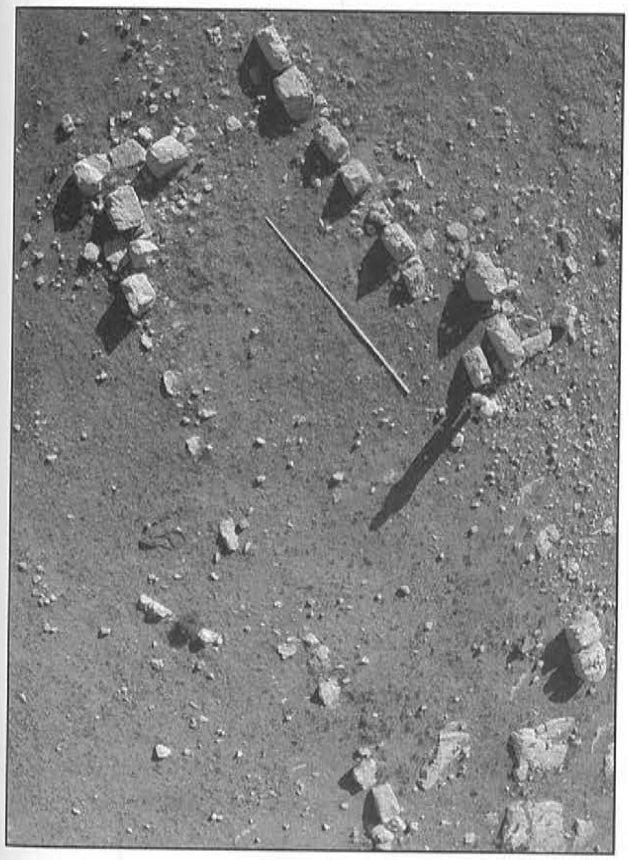


8. Map of surveyed squares and excavation trenches in Murayghāt (H. Barnes).

9. View of area 1 (from W) with line of fallen stones on the slope towards the wadi. Long arrows to the right indicate the surrounding double wall, thick arrow on the left aims at fallen stones, which could have been part of that wall (S. Kerner).



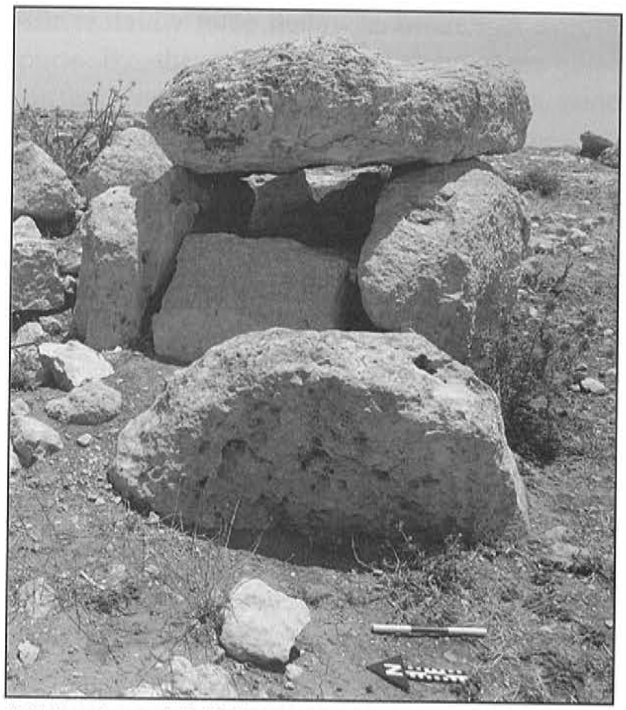
10. Horse-shoe shaped structure in P/Q/R 47/48 (S. Kerner), scale (4m) points N (left). Distorted GoPro picture corrected by University for Applied Sciences Karlsruhe.



11. Rectangular structure in J/I 54, scale (4m) pointing N (S. Kerner). Picture distorted at the edges.

actual bedrock area) was bulldozed, creating an artificial border between the bedrock and the area ploughed for agriculture.

In area 1, four dolmens were documented, they are all on the south-western outskirts of



12.Dolmen in area 1 (L.1200) (A. Andersson).

the central knoll. The best-preserved (L. 1200) is south of the above-mentioned double wall, in square Q41 **(Fig. 12)**. It is a 'type A' dolmen (Zohar 1990), with one upright stone slab on each side and one stone slab as its roof. The ends were each blocked by a smaller stone slab. This particular dolmen had at least 16 cup-holes of different shapes and sizes worked into the roofing slab. The other three dolmens are close together in squares S/T 46, ca 50 m south-west of the summit of the site. They are all much less well preserved than L. 1200, but are either type A or B, so might have had more than one upright forming each long side. L. 1205 has a stone slab as its floor, while the other two dolmens seem to be built on bedrock platforms.

The archaeological material collected on the central knoll consists of ceramics, lithic material and ground basalt tools. Nearly all of the basalt fragments were unidentifable, the only exception being a basalt bowl fragment found on an unknown spot on the surface and presented to us. The pottery (very small and fragmented) included Islamic and Roman fragments, but consisted mostly of Late Chalcolithic to Middle

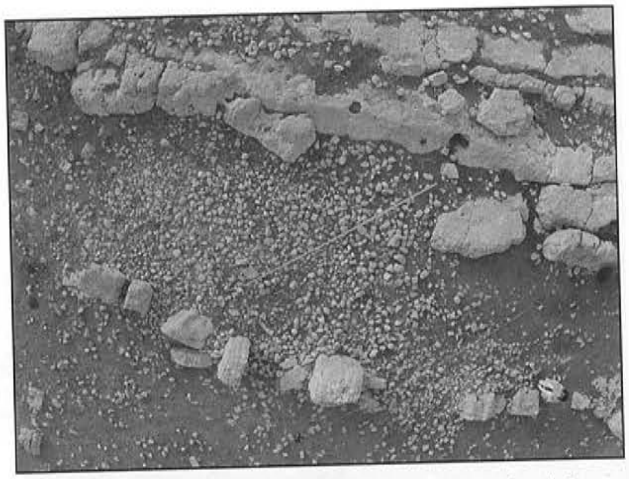
Bronze Age material, much of of which is still being analysed.

Excavation

The goal of the excavations was both chronological and interpretative as the precise character of all the structures visible on the surface needed to be established. The first two trenches (1 and 2) were thus laid out towards the middle of the central knoll in order to obtain information about the conspicuous stone surfaces **(Fig. 13)**, formed from fist-sized stones which cover parts of the site, and one of the rows of standing stones.

Trench 1 (O49) and trench 2 (N49) were each ca 30 m2 **(Fig. 14)**. Regrettably, work on those trenches had to be stopped after only seven days as the land owner of this part of the site forbade any further excavation. Trench 1 was situated between one of two large standing stones that form roughly the middle of a line of single standing stones, and the top of the central knoll. In trench 1, only three loci were defined: the modern surface 1100 including a cobblestone layer **(Fig. 13)**, the heavily disturbed soil 1101, and a second layer of cobblestones, 1102. Surfaces of cobblestones have been found at several locations on the surface of the site. The stones are mostly fist-sized and are laid closely together but without forming an even surface; they give the impression of being packing or foundation material. Trench 2 was laid out at the end of another line of standing stones. In trench 2, only four locus numbers were assigned: the modern surface 1000, topsoil 1001, lower topsoil 1002 and potential wall 1003 **(Fig. 14)**. Feature L. 1002 was again a layer of small cobblestones, although they were larger than the dense fields of small stones in trench 1.

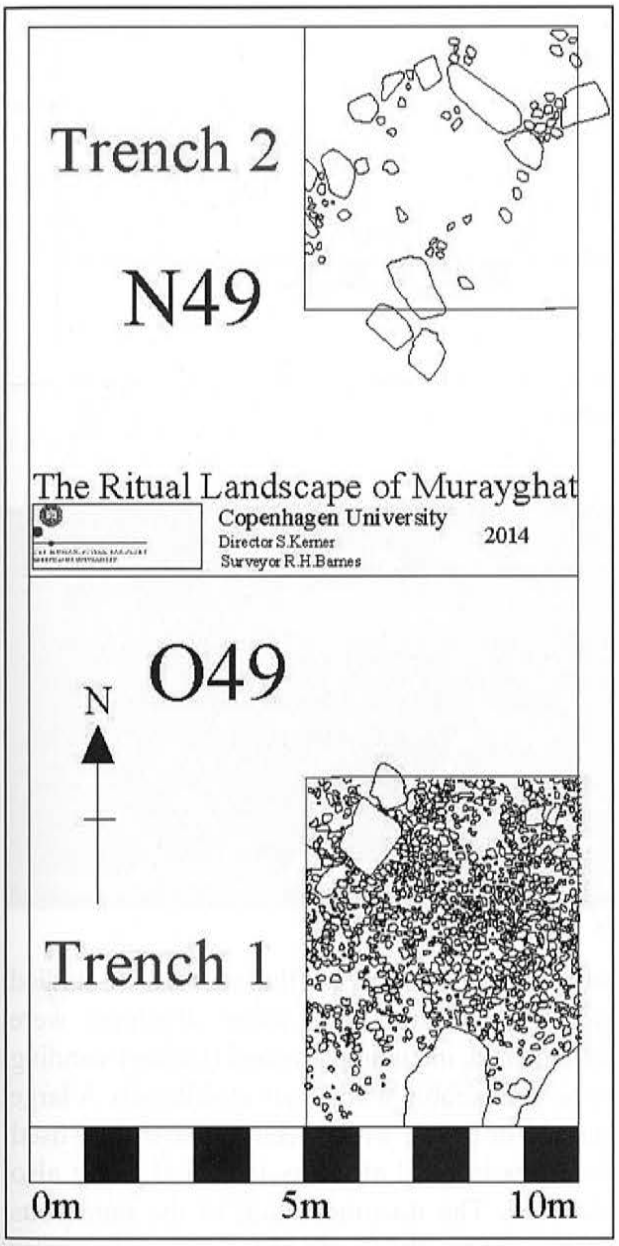
After these trenches had to be abandoned, three new trenches were opened in the area north of the bedrock knoll and the modern wall, in a ploughed area used to plant barley **(Fig. 15)**. The objective here was to establish the edge of the site. Trench 3 in B62 measured 5 m x 5 m and proved to be quite complex under the much disturbed topsoil layers (L. 1400-1401). Six small walls of different construction and character were excavated in this trench. Wall 1 (L. 1407) and wall 2 (L. 1408) form part of room 1 in the north of the trench, while wall 3 (L. 1409) and wall 4 (L. 1410) form part of room 2 in the southern part of the trench. Walls 1 and 2 were double-faced, constructed with two rows of stones, while walls 3 and 4 were made from a single line of large stone boulders, and wall 4 was rather more like a stone pile, and was therefore removed. This trench also yielded a very well made stone-lined bin of roughly 1.2 m diameter that consisted of upright standing stone slabs, which tilted outwards towards the top **(Fig. 16)**. The bottom of the pit was made of carefully laid small stones slabs.



13. Surface in area 1 with fist-sized stones. Lower side of photo a wall of standing stones with two larger monoliths in the middle, to the upper end of the photo the natural bedrock step (Trench 2 before excavation, scale 4m, pointing roughly N) (S. Kerner).

The walls in trench 3 were not very substantial and do not give the impression of having been house walls. Also, they are surrounded by platforms and rubble layers, so that only a larger exposure will enable us to give an interpretation of the structures.

The only complete ceramic profile of the season was found in trench 3 and shows one of the typical Middle Bronze Age II cooking pots with thumb-decorated application below the rim and a ledge handle **(Fig. 18)**. An arrowhead from the PPNA period was also found in this



14. Trench 1 and trench 2 in area 1 (raw data: A. Andersson, I. Ruben; map: H. Barnes).

trench **(Fig. 17)**.[5] Most material was located on the eastern side of the walls (so "outside" the excavated "rooms").

Trench 4 (B63) also measured 5 m x 5 m. The topmost layers were clearly contaminated after which were sandy and stone rubble layers containing a mixture of Byzantine and Middle Bronze Age material to a depth of 50 cm. Most of the trench showed remains of a thin clayey surface (L. 1308) that was broken in several parts by the overlaying stone rubble. This surface runs just over some stones of a wide, double-faced wall (L. 1307), and continues into the sections in both the northern and southern sides of the trench and will have to be excavated further **(Fig. 14)**.

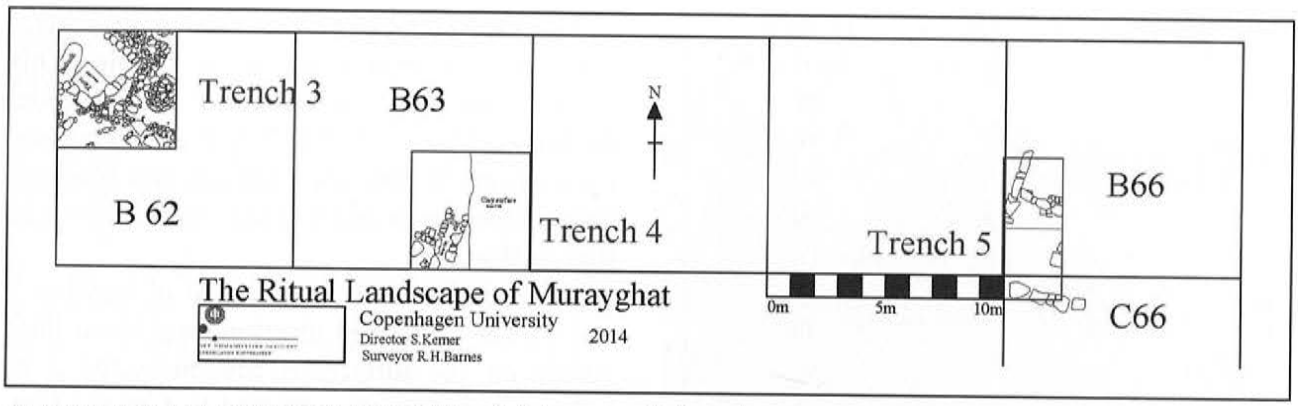
Trench 5 (B66/C66), to the east of trenches 3 and 4, was positioned to encompass stone lines visible on the surface. It first measured 3 m x 2.5 m and was later enlarged to 6 m x 2.5 m. Within this trench were four walls of different construction. Wall 1 (L. 1603), wall 2 (L. 1604) and wall 3 (L. 1610) clearly continue beyond the limits of the trench. The term 'wall' is used very loosely, as the structures are generally just rows of orthostats standing next to each other without much connecting material. Walls 1 and 2 form a right angle in the northern part of the trench, but their chronological relationship is not clear. Wall 1 had a foundation cut visible on one side, while no such cut could be found for wall 2. Wall 4 (L. 1613) is most likely an earlier phase under wall 2, built with smaller stones. Wall 3 was only just exposed in the eastern baulk. The trench was excavated down to bedrock between walls 1 and 2. After the initial mixed layers (including Late Antique material), most ceramics from the lower levels point towards a Middle Bronze Age date.

Material

Most of the archaeological material collected consists of small lithic material and badly damaged pottery.[6] The material is mostly from the surface or from the upper, disturbed, layers in the trenches. The fragments are thus usually quite small and often eroded. The lithic material consists of many blades, sometimes backed, and some are Canaanean blades **(Fig. 17:1)**, which could belong to the Early Bronze Age or Middle Bronze Age (Rosen 1997: 140-141). Tool categories include different blades **(Fig. 17: 2-3)**, scrapers **(Fig. 17: 4-6)**, borers **(Fig. 17: 7-8)**, burins **(Fig. 17: 9)** and one arrowhead

5. The arrowhead came from the lower levels in room 1.

6. No complete vessel and only one complete profile were found during the campaign.



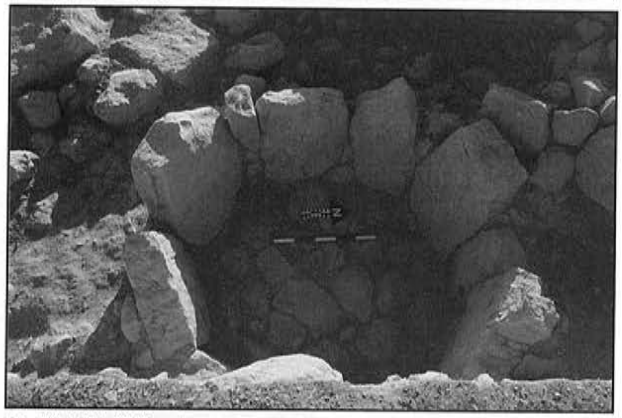
15. Trench 3, 4 and 5 (raw data: N. Tylor, Y. Pang, I. Ruben; map: H. Barnes).

(Fig. 17: 10). The AL-Khiam arrow-head dates to the PPNA and comes from the survey. Several cortical tools (fan-scrapers, **Fig. 17: 11-12**) were also in the collections, the best preserved example was unfortunately from the surface survey.

The ceramics have undergone an initial analysis, but only the material from the trenches could be studied, while the survey material has only been looked at cursorily and will be studied during the coming months. The pottery from the trenches comprises mostly Middle Bronze Age IIA cooking pots of relatively coarse fabric **(Fig. 18: 6)**, with finger-impressed bands and sometimes holes above this band. Common ware is usual for the many large and lesser small jars **(Fig. 18: 7-9)**. Only very few open bowls could be identified **(Fig. 18: 5)**. Many of the Early Bronze Age vessels are very badly preserved **(Fig. 18: 10-11)**. Nevertheless, some of the ledge handles are clearly of Early Bronze Age derivation **(Fig. 18: 12)**, while others looked more like duck-bill ledge handles, as also reported in Harrison and Savage (2003, **Fig. 4.1**). The Classical, Late Antique and Islamic pottery from the surface survey were all very badly eroded **(Fig. 18: 1-4)**.

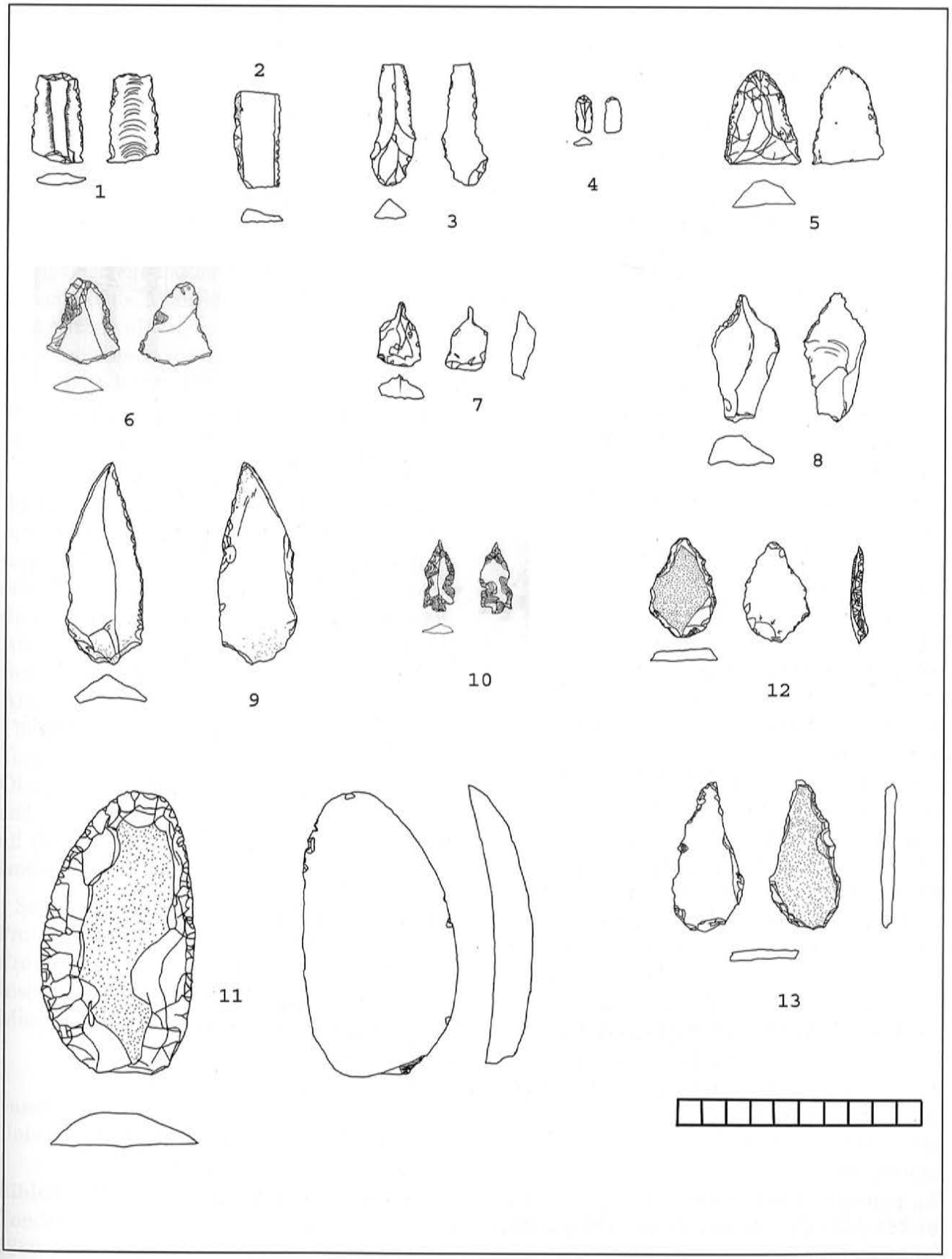
Summary

The survey proved that the stone quarries had moved further towards the dolmen fields, and that the outer dolmens (area 3 and 5) had been badly damaged. Better preserved dolmens can only be found in area 1 and area 4 (the latter will be studied in 2015). Several other stone structures were documented, including a second (former) standing stone comparable with Ḥajar aL-Manṣūb. A large number of caves, which seem to have been used as tombs in the Late Classic period, were also recorded. The documentation of the numerous round, horse-shoe shaped and rectangular structures on the central knoll began in 2014, although excavation in the central part of the site was cut short. Trenches 1 and 2 reached only the depth of the fist-sized stone cobble layers, which are present in this part of area 1.

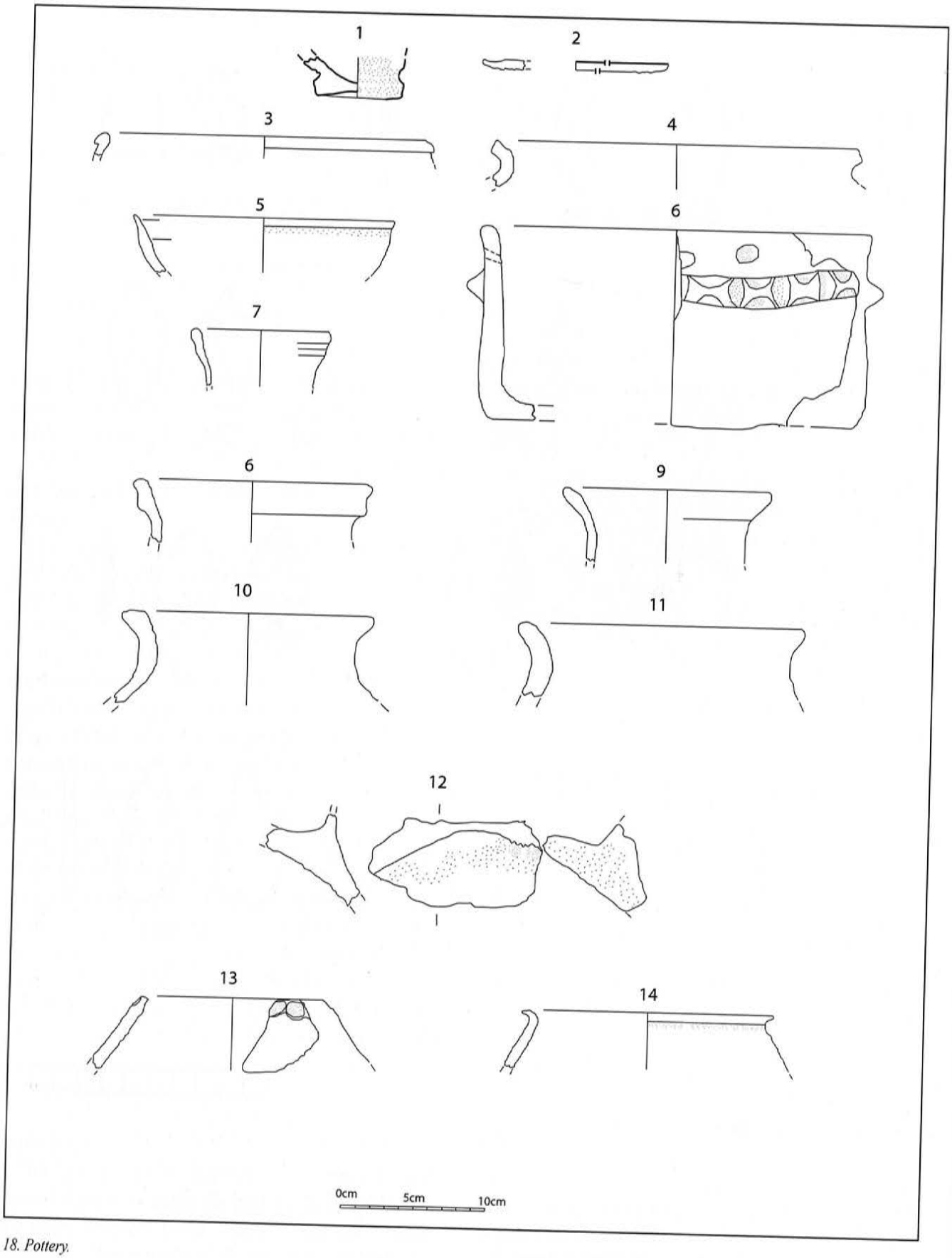


16. Pit 1430 (Y. Pang).

Trenches 3, 4 and 5 were laid out north of the central knoll and all contained Middle Bronze Age pottery. Trench 4 had an extensive surface laid above a wide wall, which needs to further excavation. Trenches 3 and 5 both had several walls which continued outside the excavated areas. The structures are not necessarily dwellings, although the pottery is mostly domestic.



17. Stone tools (ink drawing: Ditte Michelsen, illustration H. Barnes).



18. Pottery.

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